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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,441	10/29/2001	Constantine N. Anagnostopoulos	82395AEK	1071

7590 05/16/2003  
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EXAMINER

GRENDZYNSKI, MICHAEL E

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 05/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/039,441

Applicant(s)

ANAGNOSTOPOULOS,  
CONSTANTINE N.

Examiner

Michael E. Grendzynski

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 and 21-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 2
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1774

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election of Group I, species "a" (claims 1-13 and 17-20) in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election *without* traverse (MPEP § 818.03(a)). Claims 14-16 and 21-25 are withdrawn from further consideration.

### *Specification*

2. The disclosure is objected to because of the following informalities: The specification refers to Figures 11, 12a, 12b, 12c, 12d, 13a, and 13c. *See* p 9, ll 24-31. These Figures, however, are not part of the specification. *Cf.* Brief Description of the Drawings (describing only Figures 1-10). Appropriate correction is required.

### *Double Patenting*

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. *See In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the

Art Unit: 1774

conflicting application or patent is shown to be commonly owned with this application. *See* 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-13 and 17-20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23 of copending Application No. 10/045686. Although the conflicting claims are not identical, they are not patentably distinct from each other. The instant application claims ink jet media comprising a support bearing a predetermined array of three dimensional cells composed of cell walls and a base, the cells being sufficiently small so as to improve the color image quality compared to a larger cell size. The '686 application provides ink jet media comprising a support bearing a predetermined array of three dimensional cells composed of cell walls and a base, wherein the cell walls are fusible. The '686 application, not listing a required size, includes any an all cell sizes; consequently, includes the claimed size of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 1-13 and 17-20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/046264. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant application comprises the obvious product created by the process claimed in the '264 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-13 and 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase “sufficiently small so as to improve the color image quality attainable compared to cells of a larger size” renders the claim ambiguous. If the language of the claim is such that a person of ordinary skill in the art could not interpret the metes and bounds of the claim so as to understand how to avoid infringement, a rejection of the claim under 35 U.S.C. 112, second paragraph would be appropriate. *See Morton Int'l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470, 28 USPQ2d 1190, 1195 (Fed. Cir. 1993). Here, the phrase is neither defined in the specification, nor does it possess a well-defined meaning in the art. That is, the specification lacks some standard for measuring the degree intended and, therefore, properly rejected as indefinite under 35 U.S.C. 112, second paragraph. *Ex parte Oetiker*, 23 USPQ2d 1641 (Bd. Pat.App. & Inter. 1992). *See* MPEP § 2173.05(b). What size is “sufficient” to improve image quality? It is notoriously well known that if a cell possesses a specific size value, this value can be increased or decreased. The metes and bounds of the claims cannot be ascertained.

Art Unit: 1774

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 4-8, and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ylitalo et al. (WO 99/55537). Applicants claim a medium comprising a support bearing a predetermined array of three dimensional cells composed of cell walls and a base, wherein the cross section of the cells parallel to the support being of a size sufficiently small so as to improve the color image quality attainable compared to cells of a larger size. Ylitalo discloses a receptor medium comprising an embossed imaging surface. *See* Abstract. The embossed surface comprises an array of cavities having walls and a base. *See* p 10, ll 19-22 and FIG. 1. The cells are formed by embossing a plastic film such as polyester. *See* p 13, l 24 through p 14, l 8.

With regard to claims 4 & 5, Ylitalo discloses that its pattern may be a regular (repeating) or irregular pattern. *See* p 7, ll 10-11.

With regard to claims 6 & 8, Ylitalo discloses that its cavities comprise hemispherical or cubic cavities. *See* p 12, ll 10-15.

With regard to claim 7, Ylitalo discloses that its cavities are packed closely together (i.e., at a distance of 10  $\mu\text{m}$  or less). *See* p 31, ll 17-22. Examiner considers this value the equivalent of “substantially no space” between the cavities.

With regard to claims 17 & 18, Polyester is a material well known to fuse (melt) at temperatures of 50-80°C.

The limitations of the claims are met by the disclosure of the reference.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2, 3, 9-13 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ylitalo, as applied to claims 1, 4-8 and 17-18, above. With regard to claims 2-3, Ylitalo discloses that its cavities may possess an aspect ratio of from about 0.3 to about 2. *See* p 12, ll 18-19. Aspect ratio is defined as the ratio of depth to width of the cavity. *See* p 12, ll 17-18. It is the examiner's position that one skilled in the art considers the value "about 2" to include values, at the very least, of 2.5. The depth of the cavities is disclosed by Ylitalo to be 25-75  $\mu\text{m}$ . *See* p 12, ll 20-22. Consequently, when the aspect ratio is 2.5, the width (diameter) of a cubic cavity is  $25\mu\text{m}/2.5 = 10$ . Assuming 1  $\mu\text{m}$  between cavities, then there exists at least 49 cavities per  $7056 \mu\text{m}^2$  of media imaging surface area. In addition, Ylitalo discloses that its medium may comprise at least 90,000 cavities/ $\text{in}^2$ . *See* p 8, ll 18-22. These values, then, overlaps applicants' claimed cells per unit area values. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). *See* MPEP § 2144.05. Applicants can rebut a prima facie case of obviousness based on overlapping ranges by showing the criticality of the claimed range. *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990); *see also* MPEP § 2144.05.

Art Unit: 1774

With regard to claims 9-11, Ylitalo discloses that the volume of its cavities possesses a volume range value of from about 20 pL to about 1,000 pL. *See* p 12, ll 4-5. That is, Ylitalo clearly contemplates values less than 20 pL. One skilled in the art would appreciate that the lower value range of “about 20” would include values as low as 1 pL. Consequently, the volume values of Ylitalo overlap applicants’ claimed ranges. In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). *See* MPEP § 2144.05. Applicants can rebut a prima facie case of obviousness based on overlapping ranges by showing the criticality of the claimed range. *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990); *see also* MPEP § 2144.05.

With regard to claims 12 & 13, the volume of a cavity—thus the depth of the cavity—is a conventional concern in the art, for it controls the number of ink droplets which the cavity may contain which, in turn, controls the resolution of the image. *See* Ylitalo at p 11, l 30 through p 12, l 5; *see also* p 8, ll 4-26. The experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants’ claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215. *See* MPEP § 716.02(a) (stating that evidence of unobvious or unexpected advantageous properties, such as superiority in a property the claimed compound shares with the prior art, can rebut prima facie obviousness). To date, this burden has not been sustained.



Art Unit: 1774

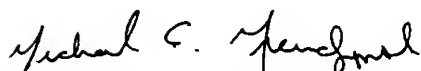
With regard to claims 19 & 20, UV absorbers and colorant stabilizers are notoriously well known additives used in the ink jet art. It would have been obvious to one of ordinary skill in the art at the time of the invention to place UV absorbers and colorant stabilizers in the nonporous sheet material of Ylitalo, for they are well known additives designed to prevent fading of an image placed on a medium.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael E. Grendzynski whose telephone number is 703-305-0593. The examiner can normally be reached on weekdays, from 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 703-308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2351.

  
Michael E. Grendzynski  
Assistant Examiner  
May 5, 2003